

- 1 1. A telescope comprising:
  - 2 a vision lens having a vision axis and comprising a first surface for placement
  - 3 substantially in front of an eye of a user; and
  - 4 a plurality of optical elements defining an optical path for viewing an object in
  - 5 front of said first surface, at least one of said plurality of optical elements being
  - 6 positioned such that at least a portion of said optical path is located within said
  - 7 vision lens in a plane substantially orthogonal to said vision axis.
- 1 2. The telescope of claim 1 wherein said vision lens further comprises a second
- 2 surface, said at least one of said plurality of optical elements being positioned
- 3 substantially between said first surface and said second surface.
- 1 3. The telescope of claim 1 wherein said eye simultaneously views said object
- 2 through said vision lens and said plurality of optical elements.
- 1 4. The telescope of claim 1 wherein said vision lens is a spectacle lens.
- 1 5. The telescope of claim 4 further comprising an eyeglass frame adapted to retain
- 2 said spectacle lens.
- 1 6. The telescope of claim 1 wherein at least a portion of one of said plurality of
- 2 optical elements is embedded in said vision lens.
- 1 7. The telescope of claim 1 wherein one of said plurality of optical elements is a
- 2 lens.
- 1 8. The telescope of claim 7 wherein said lens is convex.
- 1 9. The telescope of claim 7 wherein said lens is concave.
- 1 10. The telescope of claim 1 wherein at least one of said plurality of optical elements
- 2 is a mirror.

- 1 11. The telescope of claim 10 wherein said mirror is turned at about 45 degrees to  
2 said vision axis.
- 1 12. The telescope of claim 10 wherein said mirror is planar.
- 1 13. The telescope of claim 10 wherein said mirror is curved.
- 1 14. The telescope of claim 1 wherein at least one of said plurality of optical elements  
2 is a holographic element.
- 1 15. The telescope of claim 1 wherein said plurality of optical elements comprises an  
2 objective lens, an ocular lens, and a plurality of planar mirrors, said plurality of  
3 planar mirrors adapted to direct said optical path between said objective lens and  
4 said ocular lens.
- 1 16. The telescope of claim 15 wherein said objective lens has an objective lens axis,  
2 said objective lens axis being substantially parallel to said vision axis.
- 1 17. The telescope of claim 16 wherein at least one of said plurality of said planar  
2 mirrors is turned at about forty-five degrees to said objective lens axis.
- 1 18. The telescope of claim 15 wherein said ocular lens has an ocular lens axis, said  
2 ocular lens axis being substantially parallel to said vision axis.
- 1 19. The telescope of claim 18 wherein at least one of said plurality of said planar  
2 mirrors is turned at about forty-five degrees to said ocular lens axis.
- 1 20. The telescope of claim 15 wherein said objective lens and said ocular lens are  
2 chromatically corrected.
- 1 21. The telescope of claim 15 wherein said ocular lens is a negative or concave lens.
- 1 22. The telescope of claim 15 wherein said objective lens is a positive or convex  
2 lens.
- 1 23. The telescope of claim 15 wherein said ocular lens is a positive or convex lens.

- 2 24. The telescope of claim 15 wherein said objective lens is a negative or concave  
3 lens.
- 1 25. The telescope of claim 1 wherein said telescope comprises a Galilean type  
2 telescope.
- 1 26. The telescope of claim 1 wherein said telescope comprises a Keplerian type  
2 telescope.
- 1 27. The telescope of claim 15 wherein at least one of said plurality of planar mirrors  
2 is located completely within said lens.
- 1 28. The telescope of claim 15 wherein said objective lens is positioned coincident to  
2 said lens.
- 1 29. The telescope of claim 15 wherein said ocular lens is positioned coincident to said  
2 lens.
- 1 30. The telescope of claim 15 wherein said ocular lens is mounted completely behind  
2 said lens.
- 1 31. A vision enhancing system comprising:  
2 a spectacle lens having a vision axis and comprising a first surface for placement  
3 substantially in front of an eye of a user; and  
4 a telescope in communication with said spectacle lens for viewing an object in  
5 front of said first surface; said telescope comprising:  
6 an objective lens having an objective lens axis, said objective lens axis  
7 being substantially parallel to said vision axis;  
8 an ocular lens in optical communication with said objective lens and  
9 having an ocular lens axis, said ocular lens axis being substantially parallel  
10 to said vision axis; and

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11 a plurality of optical elements defining an optical path between said  
12 objective lens and said ocular lens, at least one of said plurality of optical  
13 elements being positioned such that at least a portion of said optical path is  
14 located within said spectacle lens in a plane substantially orthogonal to  
15 said vision axis.

1 32. The vision enhancing system of claim 31 wherein said spectacle lens further  
2 comprises a second surface, said at least one of said plurality of optical elements  
3 being positioned substantially between said first surface and said second surface.

1 33. The vision enhancing system of claim 31 wherein said eye simultaneously views  
2 said object through said spectacle lens and said telescope.

1 34. The vision enhancing system of claim 31 further comprising an eyeglass frame  
2 adapted to retain said spectacle lens.

1 35. The vision enhancing system of claim 31 wherein at least a portion of one of said  
2 plurality of optical elements is embedded in said spectacle lens.

1 36. The vision enhancing system of claim 31 wherein at least one of said plurality of  
2 optical elements is a mirror.

1 37. The vision enhancing system of claim 36 wherein said mirror is turned at about 45  
2 degrees to said vision axis.

1 38. The vision enhancing system of claim 36 wherein said mirror is planar.

1 39. The vision enhancing system of claim 38 wherein said planar mirror is turned at  
2 about forty-five degrees to said objective lens axis.

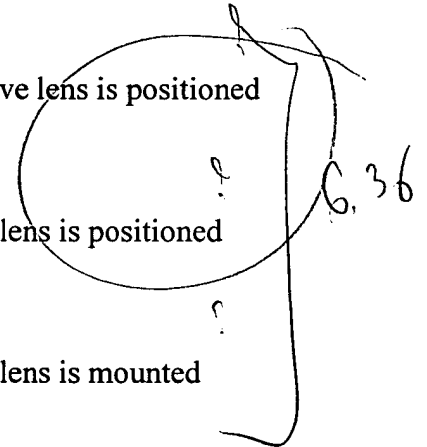
1 40. The vision enhancing system of claim 38 wherein said planar mirror is turned at  
2 about forty-five degrees to said ocular lens axis.

1 41. The vision enhancing system of claim 31 wherein at least one of said plurality of  
2 optical elements is a holographic element.

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FOIA b 7 - DATED 04-29-2015

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- 1 42. The vision enhancing system of claim 31 wherein said objective lens and said  
2 ocular lens are chromatically corrected.
- 1 43. The vision enhancing system of claim 31 wherein said ocular lens is a negative or  
2 concave lens and said objective lens is a positive or convex lens.
- 1 44. The vision enhancing system of claim 31 wherein said telescope comprises a  
2 Galilean type telescope.
- 1 45. The vision enhancing system of claim 31 wherein said telescope comprises a  
2 Keplerian type telescope.
- 1 46. The vision enhancing system of claim 38 wherein said planar mirror is located  
2 completely within said spectacle lens.
- 1 47. The vision enhancing system of claim 31 wherein said objective lens is positioned  
2 coincident to said spectacle lens.
- 1 48. The vision enhancing system of claim 31 wherein said ocular lens is positioned  
2 coincident to said spectacle lens.
- 1 49. The vision enhancing system of claim 31 wherein said ocular lens is mounted  
2 completely behind said spectacle lens.
- 1 50. A method for constructing a telescope comprising:  
2 mounting a lens having a vision axis and comprising a first surface to a frame  
3 such that said lens is positioned substantially in front of an eye of a user; and  
4 arranging a plurality of optical elements relative to said lens, said plurality of  
5 optical elements defining an optical path for viewing an object in front of said  
6 first surface, at least one of said plurality of optical elements being positioned  
7 such that at least a portion of said optical path is located within said lens in a  
8 plane substantially orthogonal to said vision axis.



- 1 51. The method of claim 50 wherein said step of arranging said plurality of optical  
2 elements comprises placing an objective lens in optical communication with said  
3 lens.
- 1 52. The method of claim 51 wherein said objective lens is a positive or convex lens.
- 1 53. The method of claim 51 wherein said objective lens is a negative or concave lens.
- 1 54. The method of claim 50 wherein said step of arranging said plurality of optical  
2 elements comprises placing an ocular lens in optical communication with said  
3 lens.
- 1 55. The method of claim 54 wherein said ocular lens is a negative or concave lens.
- 1 56. The method of claim 54 wherein said ocular lens is a positive or convex lens.
- 1 57. The method of claim 50 wherein said step of arranging said plurality of optical  
2 elements comprises placing at least one holographic element in optical  
3 communication with said lens.
- 1 58. The method of claim 50 wherein said plurality of optical elements comprises an  
2 objective lens, an ocular lens, and a plurality of planar mirrors, said plurality of  
3 planar mirrors adapted to direct said optical path between said objective lens and  
4 said ocular lens.
- 1 59. The method of claim 50 wherein said step of arranging a plurality of optical  
2 elements comprises creating a Galilean telescope.
- 1 60. The method of claim 50 wherein said step of arranging a plurality of optical  
2 elements comprises creating a Keplerian telescope.